

exposed surface electrical contact area for making electrical interconnections within the matrix transformer and for making electrical connections to circuitry that is external to the matrix transformer.

This differs from the referenced prior art in a number of respects, but the most important is this one.

"Stepped terminations". None of the referenced patents teaches nor suggests stepped terminations.

In Umeno (6,000,128), the terminations are variants of the pin termination shown in figures 5 and 6 of the present specification as prior art. I am familiar with laminated windings made for matrix transformers as shown in my figures 5 and 6. I did not invent such laminations and I do not claim such laminations. As discussed in the text, pin terminations, as shown in figures 5 and 6 of the specification and in Umeno have a number of problems that stepped terminations of the present invention overcome.

In Smith (6,087,922), the windings are continuous insulated and folded strips. Smith does not teach or suggest the stacked winding with the staggered terminations of the present invention.


In Olsen (3,223,955), there is no discussion of the windings of the transformer at all. Olsen discloses a method of manufacture for steel magnetic cores for a transformer. None of his drawings and nothing in his specifications nor his claims teach or suggest anything at all about the windings.

Please understand that one of the unique characteristics of most matrix transformers is the use of solid cores with a through hole through which the winding must be inserted, unlike the transformers of Umeno and Smith, in which the cores are split. The need to insert the winding through a hole in a solid, one-part core presents unique challenges that this invention solves, that is, the successive windings cannot be connected into a continuous winding until after it is inserted through the through holes.

Interconnecting the layers of a laminated winding in the usual manner of interconnecting layers of a printed circuit board (as shown in my figures 5 and 6) is not suitable. Please see [0027] in the specification for a complete discussion of the problems.

Accordingly, I am leaving claims 1 through 5 in the application as originally filed, and I respectfully request that you reconsider your rejection. If you have questions or would like to discuss this further, please do not hesitate to phone me, 860 693 1684.

Sincerely yours,


Edward Herbert